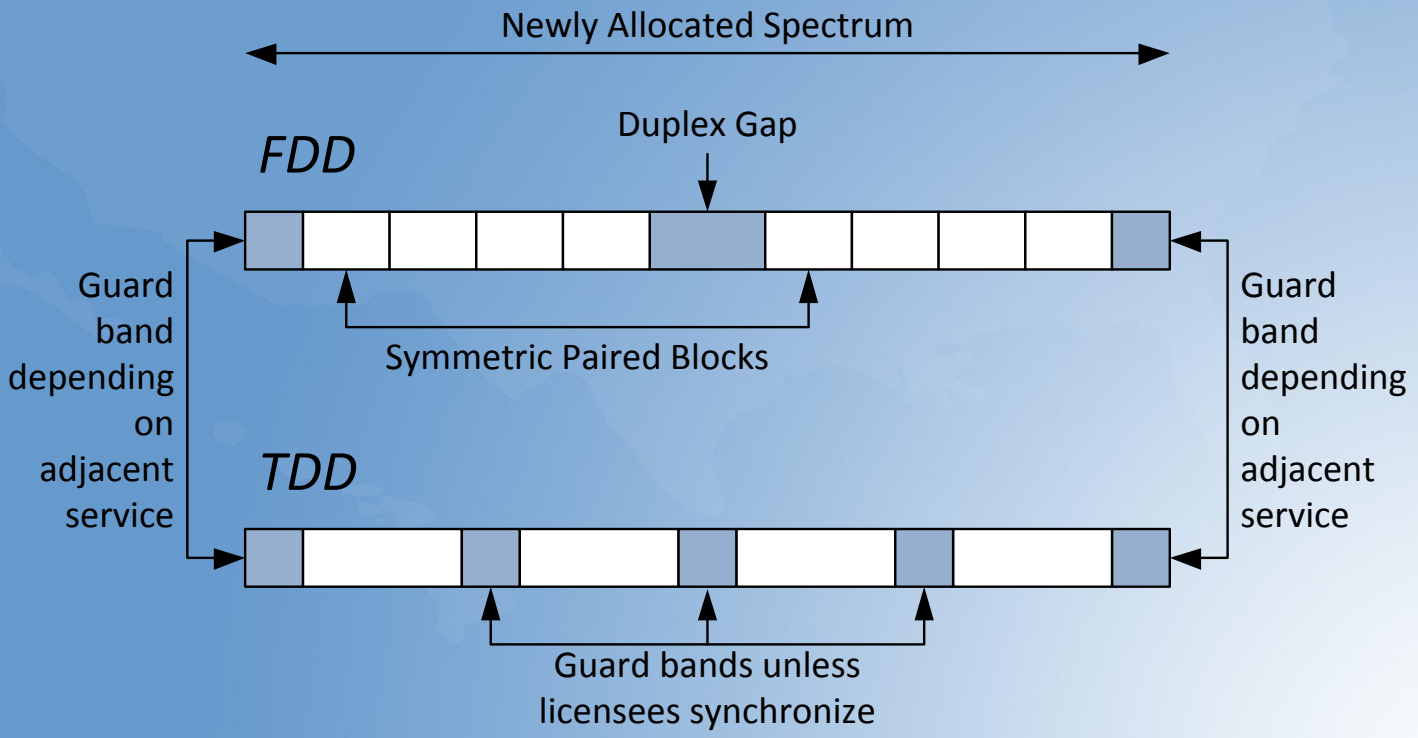
FCC Thoughts on Future Band Plans

Technological Advisory Council

Forum on the Future of Band Plans

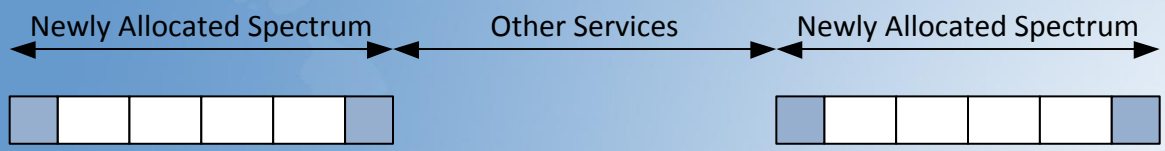
16 July 2012

Traditional Band Plans



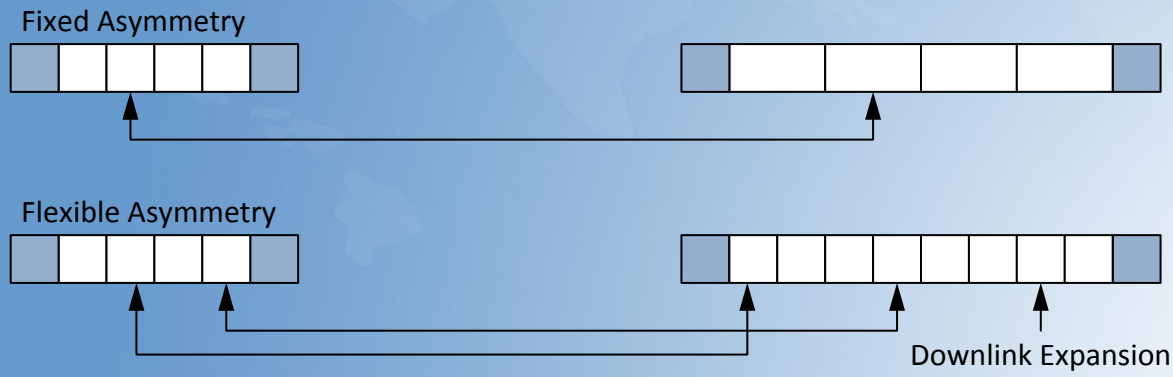
Large Duplex Gaps

- Small duplex gap: PCS – 1800 and 1900 MHz
- Large duplex gap: AWS-1 – 1700 and 2100 MHz
- Larger duplex gaps?
  - Allow larger contiguous allocations
  - Guard bands may be smaller than duplex gap
  - Pairing disparate bands – e.g. Carrier aggregation of 700 MHz and AWS-1
  - How far can this go? 700 & 2100 MHz? 700 & 2500 MHz? 600 and 3500 MHz?



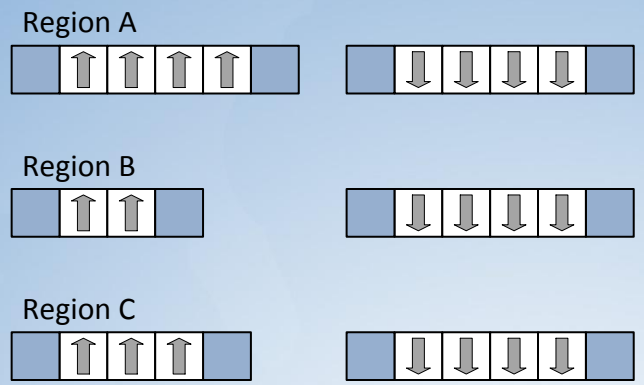
Asymmetric FDD

- Broadband traffic dominated by downlink
  - Is this a long-term trend?
- Allocate asymmetric blocks (5+10 MHz, etc.)?
  - Fixed pairings
- Allocate building blocks – market determined pairings?
  - Licensees acquire pairs, or downlink only, or uplink only, as they need



Nationwide band plans

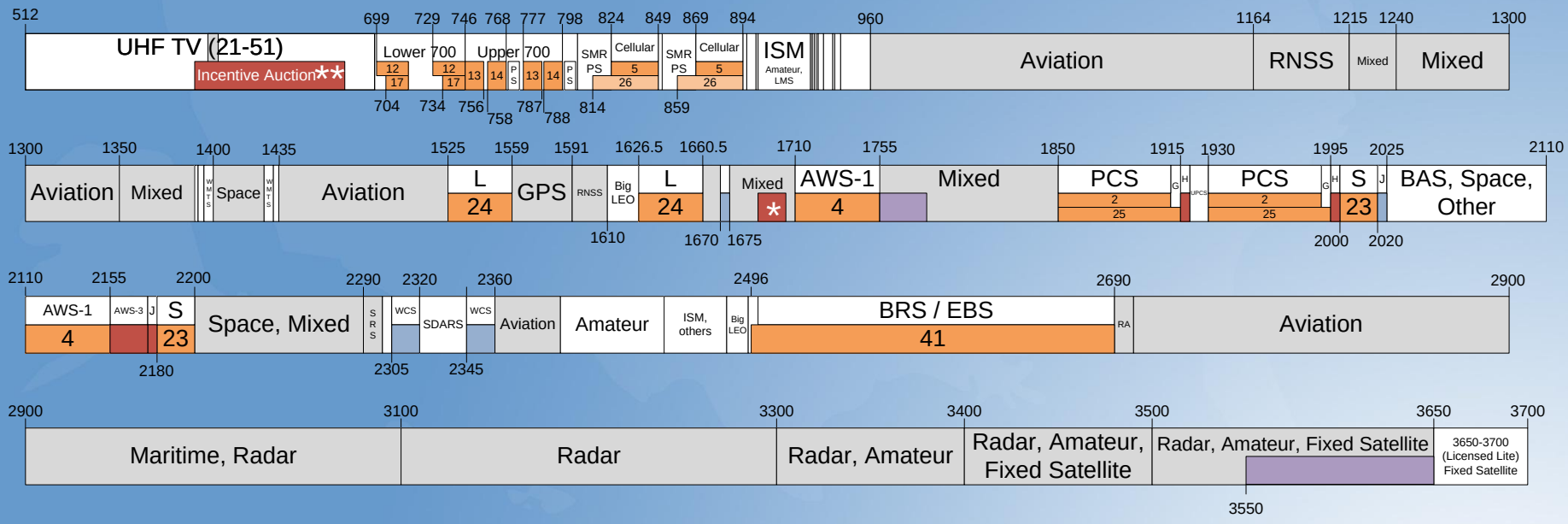
- With exclusion zones and sharing, hard to find nationwide spectrum in future
- Nationwide plan critical for downlink
  - Mobiles travel through all regions, are size and cost constrained
  - Uniform mobile filters for all regions
  - Other services falling inside receive filter could block receivers
- Not critical for uplink?
  - Base stations fixed in a single region, lesser size and cost constraints
  - Vary base station filters by region
  - Fixed mobile transmit filter acceptable
    - Will not transmit on unassigned frequencies
    - Can meet OOBE limits without transmit filter



Block Sizes

- Large blocks versus small blocks
  - In past, large blocks for efficiency, small blocks for competition
- Building blocks
  - License 5 MHz blocks
  - Build contiguously to obtain 5, 10, 15, 20 MHz or more as needed
  - Licensing mechanisms to encourage (or ensure?) contiguity of assignments

Band Proliferation?



- 3GPP North American band
- 3GPP proposed North American band
- Other part 25 and 27 allocations
- Non-federal uses
- Federal uses
- Possible federal clearing or sharing
- Legislative mandate to auction
- * Legislation specifies 15 MHz between 1675 and 1710, frequencies not determined.
- ** Legislation specifies incentive auctions, specific frequencies depend on auction participation and FCC rules.